

NOTES:

- SUBJECT PARCEL IS SHOWN AS ASSESSORS MAP 17, LOT 08A, RECORD TITLE FROM BOOK 5811, PAGE 144.
  - UTILITY LOCATIONS DEPICTED ON THE PLAN, BOTH ABOVE- AND BELOW-GROUND, WERE BASED UPON DIRECT FIELD OBSERVATIONS MADE BY METROWEST ENGINEERING, INC. PERSONNEL DURING A FIELD SURVEY. RECORD PLAN LOCATIONS, OR DISASTE PAINT-INDICATORS, METROWEST ENGINEERING, INC. DOES NOT WARRANT THAT ALL UTILITIES ARE SHOWN OR THAT UTILITIES THAT ARE DEPICTED ARE ACCURATELY LOCATED OR WITHIN THE PROPOSED LATERAL BOUNDARIES. METROWEST ENGINEERING, INC. DOES NOT WARRANT PROVIDE AN EXPRESS OR IMPLIED WARRANTY THAT ALL SUBSURFACE IMPROVEMENTS ARE SHOWN OR ARE SHOWN CORRECTLY, INCLUDING, BUT NOT LIMITED TO, UTILITIES, UNDERGROUND VAULTS, UNDERGROUND TANKS OR CHAMBERS, BUNKERS, DUCT BANKS, AND/OR OTHER MAN-MADE IMPROVEMENTS THAT LIE BENEATH THE GROUND SURFACE AT THE TIME OF THE SURVEY.
  - CONTRACTOR IS SOLELY RESPONSIBLE FOR ESTABLISHING EXISTING LOCATIONS OF ALL SUB-SURFACE UTILITIES AND MAN-MADE IMPROVEMENTS AND FOR THE REQUIREMENTS TO REPLACE, RELOCATE OR REPAIR EXISTING UTILITIES IN THE EVENT OF DAMAGE OCCURRING DURING CONSTRUCTION. CONTRACTOR IS RESPONSIBLE FOR OBTAINING DEANS OR DEETS ASSOCIATED WITH RECORDS OF DEEDS FOR LOCATING OF EXISTING UTILITIES REGARDLESS OF WHETHER SAID UTILITIES ARE ACCURATELY DEPICTED ON THIS SURVEY.
  - THE PROPERTY DESCRIBED ON THIS SURVEY LIES PARTIALLY WITHIN A SPECIAL FLOOD HAZARD AREA AS DEFINED BY THE MASSACHUSETTS DEPARTMENT OF ENVIRONMENTAL AFFAIRS, IDENTIFIED AS MAP NUMBER 25027C0829E BEARING AN EFFECTIVE DATE OF JULY 4, 2011.
  - THE PROPERTY IS SUBJECT TO A LEASE AGREEMENT RECORDED IN BOOK 55023, PAGE 301.
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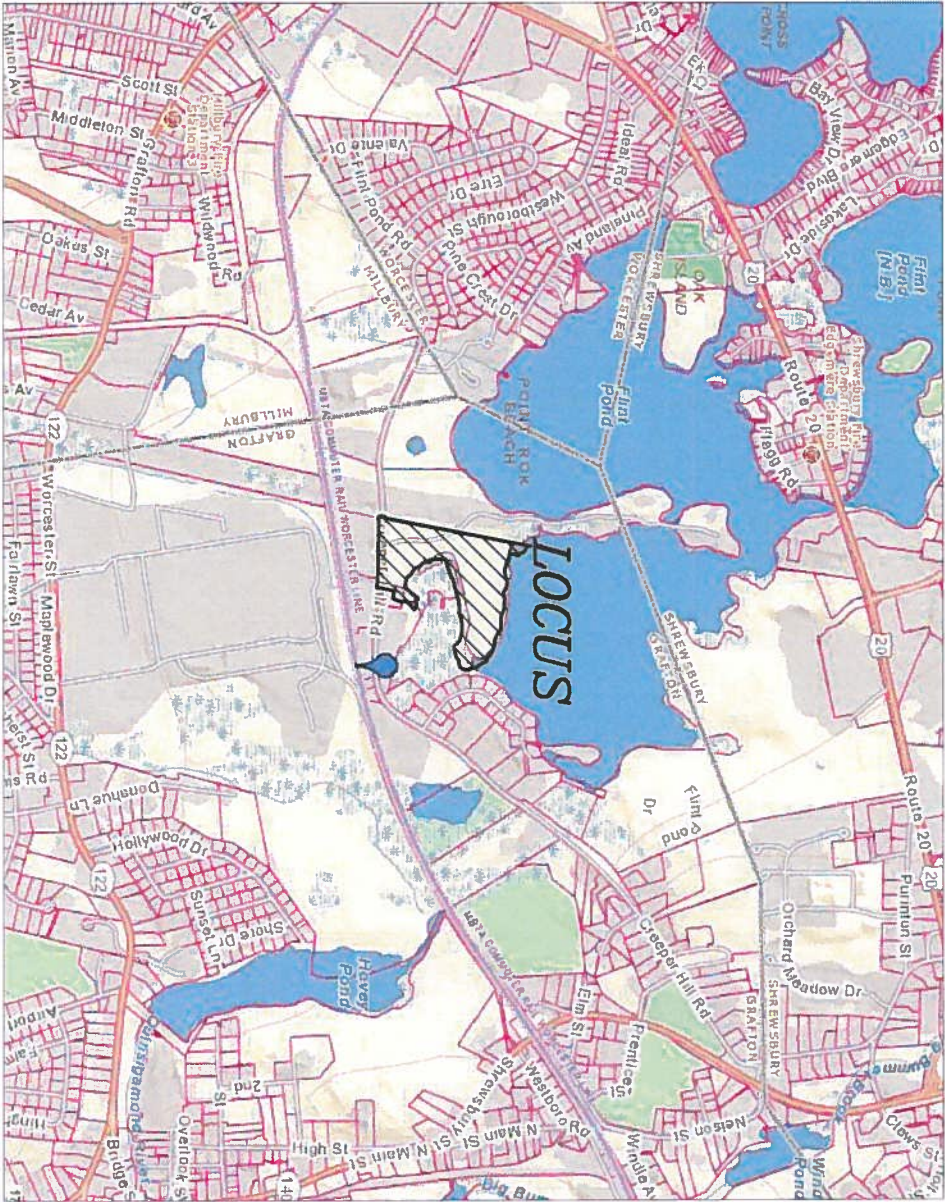
999

1000
- CONTRACTOR TO VERIFY ACTUAL LOCATION OF EXISTING UTILITY SERVICES IN THE FIELD PRIOR TO CALL DIG-SAFE BEFORE YOU DIG 811.

ZONING:

01L— OFFICE/LIGHT INDUSTRIAL  
ANY NON-RESIDENTIAL USE  
MINIMUM AREA= 40,000 SQUARE FEET  
MAXIMUM FRONTAGE = 120 FEET  
SETBACKS:  
FRONT YARD= 40 FEET  
SIDE YARD= 35 FEET  
REAR YARD= 35 FEET  
LOT COVERAGE= 40%

SITE PLAN SET  
PROPOSED SITE DEVELOPMENT  
104 CREEPER HILL ROAD GRAFTON, MASSACHUSETTS



SHEET INDEX

- COVER SHEET  
SHEET C100—EXISTING CONDITIONS PLAN  
SHEET C200—EROSION AND SEDIMENT CONTROL PLAN  
SHEET C300 & C301—PROPOSED LAYOUT PLAN  
SHEETS C400 & C401—PROPOSED GRADING PLAN  
SHEET C500 & C501—PROPOSED SITE PLAN  
SHEET C600—LANDSCAPING PLAN  
SHEET C700 & C701—DETAIL PLAN

REVISIONS

NO.	DATE	ADDRESS CON. COMM. AND GRAVES ENG. COMMENTS	BY
2	12/14/16	ADDRESS CONSERVATION COMMISSION COMMENTS	BTN
1	12/04/16	ADDRESS CON. COMM. AND GRAVES ENG. COMMENTS	BTN

RECEIVED  
DEC 16 2016  
PLANNING BOARD  
GRAFTON, MA

FOR METROWEST ENGINEERING, INC.  
ROBERT A. CEMMA, P.E.(CIVIL) # 31967  
PLS. # 37046  
DATE



GRAFTON PLANNING BOARD

SITE PLAN REVIEW

COVER SHEET  
#104 CREEPER HILL ROAD  
IN  
GRAFTON, MASS

PREPARED FOR:  
RUSSO BROTHERS INC.  
P.O. BOX 2105  
FRAMINGHAM, MA 01703

PROPERTY OF:  
104 CREEPER HILL ROAD, LLC  
104 CREEPER HILL ROAD  
GRAFTON, MA 01519

ENGINEERS & SURVEYORS:  
METROWEST ENGINEERING, INC.  
75 FRANKLIN STREET  
GRAFTON, MA 01702  
TEL.: (508)626-0063  
FAX: (508)675-6440

COVER SHEET  
DATE: NOVEMBER 1, 2016  
CALCD BY: BTN  
FIELD BK:  
DRAFTER: BTN  
PROJECT: GRP-CRE  
DWG FILE: SP110116\_R2.dwg

PROPOSED PARKING REQUIREMENTS

TRANSPORTATION INDUSTRIAL AND UTILITY USE	PARKING REQUIREMENT 1.3 SPACE PER EMPLOYEE FOR MAXIMUM SHIFT	PROPOSED FLOOR AREA/BAYS 10 EMPLOYEES	TOTAL 13.0
TOTAL NUMBER OF REQUIRED PARKING SPACES			13.0
NUMBER OF PROPOSED EXTERIOR PARKING SPACES			16

ZONING TABLE: 104 CREEPER HILL ROAD

MAP 17, LOT 8A

DESCRIPTION	REQUIRED 01L ZONE	EXISTING	PROPOSED
LOT AREA	40,000 SQ. FT. (MIN.)	656,271+ SQ. FT.	656,271+ SQ. FT.
LOT FRONTAGE	120 FT. (MIN.)	574.48 FT.	574.48 FT.
FRONT YARD SETBACK	40 FT. (MIN.)	N/A.	80.2 FT.
SIDE YARD SETBACK	35 FT. (MIN.)	N/A.	37.0 FT.
REAR YARD SETBACK	35 FT. (MIN.)	N/A.	135.1 FT.
MAX BUILDING HEIGHT	35 FT.	N/A.	25.0 FT.
FLOOR AREA	N/A.	N/A.	12,000 SQ. FT.
FLOOR AREA RATIO	N/A.	N/A.	0.018
MAX. LOT COVERAGE	N/A.	N/A.	13.050 SQ. FT.
BUILDING AREA	40%	N/A.	76,269 SQ. FT.
OTHER IMPERVIOUS SURFACES	N/A.	9,855 SQ. FT.	89,319 SQ. FT.
TOTAL IMPERVIOUS AREA	N/A.	N/A.	16 SPACES
PARKING	13 SPACES	N/A.	1 SPACE
HANDICAP PARKING	1 SPACE	N/A.	1 SPACE
LANDSCAPED OPEN SPACE	N/A.	N/A.	0.200
SURFACE RATIO	N/A.	593,548 SQ. FT.	593,548 SQ. FT.
UPLAND AREA	40,000 SQ. FT. (MIN.)	593,548 SQ. FT.	593,548 SQ. FT.



BIRM  
DRAIN CATCH  
BRAN MANHOLE  
ELECTRIC LINE  
FENCE  
GAS LINE  
GAS GATE  
CURB  
GUARD POST  
HANDICAP PARKING SPACE  
HYDRANT  
LIGHT POLE  
NUMBER OF PARKING SPACES  
OBSERVATION WELL  
PAVEMENT EDGE  
SEWER LINE  
SIGN  
SEWER MANHOLE  
TELEPHONE MANHOLE  
UTILITY MANHOLE  
UTILITY POLE  
WATER GATE  
WATER LINE



<u>CODE</u>	<u>DESCRIPTION</u>
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WB#	WHITE BIRCH
BC#	BLACK CHERRY
RM#	RED MAPLE
RO#	RED OAK
PP#	PITCH PINE
WP#	WHITE PINE

A diagram of a tree with three labels and leader lines pointing to specific parts: 'TREE LOCATION' points to the top of the tree, 'TREE CODE' points to a small circle on the trunk, and 'TREE DIAMETER' points to the trunk.

## OLI - OFFICE/LIGHT INDUSTRIAL

ANY NON-RESIDENTIAL USE  
MINIMUM AREA = 40,000 SQUARE FEET  
MAXIMUM FRONTAGE = 120 FEET  
SETBACKS  
FRONT YARD = 40 FEET  
SIDE YARD = 35 FEET

215,015  $\pm$  S.F.

(AREA WITHIN FLINT POND)

A GREAT POND - ENLARGED BY THE IRISH DAM  
SEE RELEASE OF DAMAGES BOOK 271, PAGES 449 & 450

NO	DATE	DESCRIPTION	BY
2	12/14/16	ADDRESS CONSERVATION COMMISSION COMMENTS	BTW
1	12/04/16	ADDRESS CON COM AND GRAVES ENG. COMMENTS	BTW

5 THE PROPERTY IS SUBJECT TO A LEASE AGREEMENT  
RECORDED IN BOOK 55025, PAGE 301.

1. SUBJECT PARCEL IS SHOWN AS ASSESSORS MAP 17, LOT 09A, RECORDED TITLE FROM BOOK 56111, PAGE 144.
  2. BELOW-GROUND, ARE DEPicted ON THIS PLAN, BOTH ABOVE- AND BELOW-GROUND, ARE BASED UPON DIRECT FIELD OBSERVATIONS MADE BY METROWEST ENGINEERING, INC. PERSONNEL DURING A FIELD SURVEY. RECORDED PLAN LOCATIONS, OR DISCREPANT PAINT-INDICATORS, METROWEST ENGINEERING, INC. DOES NOT WARRANT THAT ALL ARE ACCURATE. THE SOURCE OF THE LOCATIONS THAT ARE SHOWN ON THIS PLAN ARE EITHER FIELD OBSERVATIONS OR FROM A RECORDED SURVEY. METROWEST ENGINEERING, INC. DOES NOT WARRANT OR PROVIDE AN EXPRESS OR IMPLIED WARRANTY THAT ALL SUBSURFACE IMPROVEMENTS ARE SHOWN OR ARE SHOWN CORRECTLY, INCLUDING, BUT NOT LIMITED TO, UTILITY, UNDERGROUND VAULTS, AND UNDERGROUND TANKS. METROWEST ENGINEERING, INC. DOES NOT WARRANT THAT ANY IMPROVEMENTS, EITHER ABOVE OR BELOW-GROUND, WOULD BE BENEFICIAL TO THE SURVEY. THE GROUND SURFACE AT THE TIME OF THE SURVEY.
  3. CONTRACTOR IS SOLELY RESPONSIBLE FOR ESTABLISHING EXISTING LOCATIONS OF ALL SUB-SURFACE UTILITIES AND MAN-MADE STRUCTURES. CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE LOCATION OF OR REPAIR EXISTING UTILITIES IN THE EVENT OF DAMAGE OCCURRING DURING CONSTRUCTION. WME IS NOT RESPONSIBLE OR LIABLE FOR DELAYS OR COSTS ASSOCIATED WITH REMOVING/REPLACING/RELOCATING OR EXISTING UTILITIES REGARDLESS OF WHETHER SAID UTILITIES ARE ACCURATELY DEPICTED ON THIS SURVEY.
  4. THE PROPERTY DESCRIBED ON THIS SURVEY LIES PARTIALLY WITHIN A SPECIAL FLOOD HAZARD AREA AS DEFINED BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY. THE PROPERTY LIES WITHIN ZONE "X" OF THE FLOOD INSURANCE RATE MAP IDENTIFIED AS MAP NUMBER 25027C02082E BEARING AN EFFECTIVE DATE OF JULY 4, 2011.
5. THE PROPERTY IS SUBJECT TO A LEASE AGREEMENT RECORDED IN BOOK 55025, PAGE 301.

1. SUBJECT PARCEL IS SHOWN AS ASSESSORS MAP 17, LOT 08A  
RECORD TITLE FROM BOOK 56111, PAGE 144.

## #104 CREEPER HILL ROAD

GRAFTON, MASS

PROPERTY OF  
104 CREEPER HILL ROAD, L.L.  
104 CREEPER HILL ROAD  
CRAFTON, MA 01519

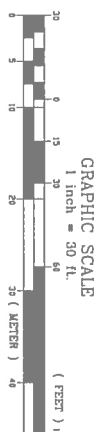
**ENGINEERING &  
SURVEYORS**

**MWE**  
METROWEST ENGINEERS  
75 FRANKLIN STREET  
CRAFTON, MA 01702  
TEL: (508) 626-0063  
FAX: (508) 875-6440

FAX: (508) 875-6440

SHEET C100

CALC'D BY: BTN	FIELD BK:	CAD FILE PROP_SP3_R2.dwg
DRAFTER: BTN	PROJECT GRF_CRE	DWG FILE SP110116_R2.dwg



FOR METROWEST ENGINEERING, INC. DATE \_\_\_\_\_  
ROBERT A. CEMMA, P.E.(CIVIL) # 31967  
P.L.S. # 37046

## LEGEND

- |   |                          |
|---|--------------------------|
| □ | BEAM                     |
| ○ | DRAIN CATCH BASIN        |
| ○ | DRAIN LINE               |
| ○ | SEWER MANHOLE            |
| ○ | ELECTRIC LINE            |
| ○ | FENCE                    |
| ○ | GAS LINE                 |
| ⊗ | WATER GATE               |
| ⊗ | CURB                     |
| ⊗ | GUARD POST               |
| ⊗ | HANDICAP PARKING SPACE   |
| ⊗ | LIGHT POST               |
| ⊗ | NUMBER OF PARKING SPACES |
| ⊗ | OBSERVATION WELL         |
| ⊗ | PAVEMENT EDGE            |
| ⊗ | SEWER LINE               |
| ⊗ | SEWER MANHOLE            |
| ⊗ | SEWER LINE               |
| ⊗ | TELEPHONE LINE           |
| ⊗ | UTILITY MANHOLE          |
| ⊗ | UTILITY POLE             |
| ⊗ | WATER GATE               |
| ⊗ | WATER LINE               |

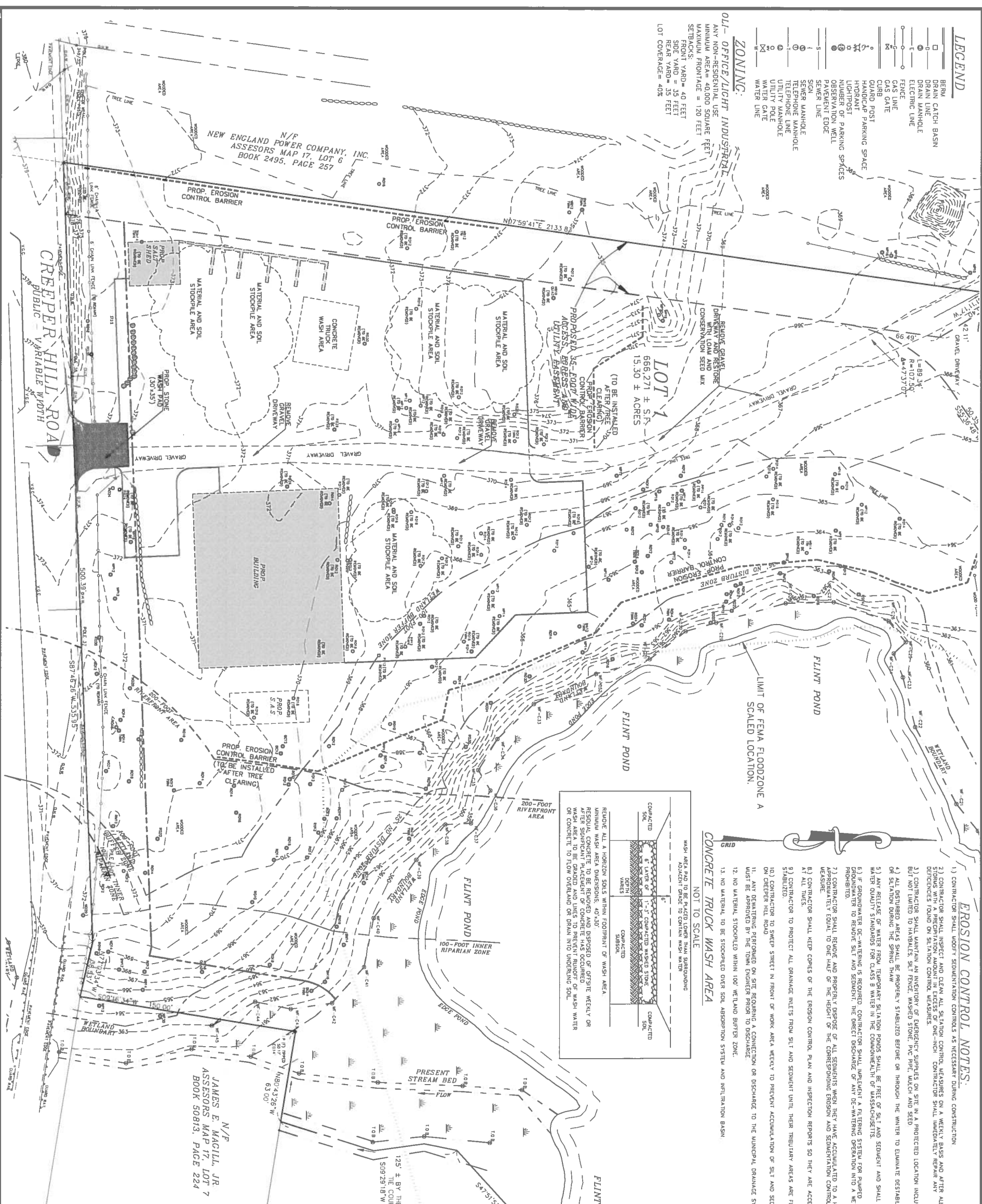
**ZONING:**

**OLI-OFFICE/LIGHT INDUSTRIAL**

ANY NON-RESIDENTIAL USE  
MINIMUM AREA = 40,000 SQUARE FEET  
MAXIMUM FRONTAGE = 120 FEET

**SETBACKS:**

FRONT YARD= 40 FEET  
SIDE YARD = 35 FEET  
REAR YARD= 35 FEET  
LOT COVERAGE= 40%

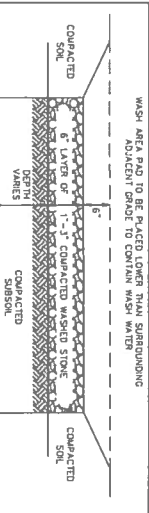


EROSION CONTROL NOTES.

- 1) CONTRACTOR SHALL INSPECT SEDIMENTATION CONTROLS AS NECESSARY DURING CONSTRUCTION.
- 2) CONTRACTOR SHALL UNCOVER AND CLEAN ALL SLUTION CONTROL MEASURES ON A WEEKLY BASIS AND AFTER ALL STORMS WITH A PRECIPITATION AMOUNT IN EXCESS OF ONE-INCH. CONTRACTOR SHALL IMMEDIATELY REPAIR ANY DEFICIENCIES FOUND ON SLUTION CONTROL MEASURES.
- 3) CONTRACTOR SHALL MAINTAIN AN INVENTORY OF EMERGENCY SUPPLIES ON SITE IN A PROTECTED LOCATION INCLUDING, BUT NOT LIMITED TO HAYBALS, SALT PILES, WASHED STONE, POC PILES, MULCH AND SEED.
- 4) ALL DISTURBED AREAS SHALL BE PROPERLY STABILIZED BEFORE OR THROUGH THE WINTER TO ELIMINATE DETACHMENT OR SLUTION DURING THE SPRING THAW.
- 5) ANY RELEASE OF WATER FROM TEMPORARY SLUTION PONDS SHALL BE FREE OF SILT AND SEDIMENT AND SHALL MEET WATER QUALITY STANDARDS FOR CLASS B WATER IN THE COMMONWEALTH OF MASSACHUSETTS.
- 6) IF ROADWAY/DE-WEATHERING IS REQUIRED, CONTRACTOR SHALL IMPLEMENT A FILTERING SYSTEM FOR PAVED PROHIBITION TO REMOVE SILT AND SEDIMENT. THE DIRECT DISCHARGE OF ANY DE-WATERING OPERATION INTO A WELL AND PROHIBITED.
- 7) CONTRACTOR SHALL REMOVE AND PROPERLY DISPOSE OF ALL SEDIMENTS WHEN THEY HAVE ACCUMULATED TO A HEIGHT MEASURED EFFECTIVELY EQUAL TO ONE HALF OF THE HEIGHT OF THE CORRESPONDING EROSION AND SEDIMENTATION CONTROL MEASURE.
- 8) CONTRACTOR SHALL KEEP COMES OF THE EROSION CONTROL PLAN AND INSPECTION REPORTS SO THEY ARE ACCESSIBLE AT ALL TIMES.
- 9) CONTRACTOR TO PROTECT ALL DRAINAGE INLETS FROM SILT AND SEDIMENT UNTIL THEIR TRIBUTARY AREAS ARE FULLY STABILIZED.
- 10) CONTRACTOR TO SWEET STREET IN FRONT OF WORK AREA WEEKLY TO PREVENT ACCUMULATION OF SILT AND SEDIMENT ON CREPPER HILL ROAD.
11. ANY DETAILING PERFORMED ON SITE REQUIRING A CONNECTION OR DISCHARGE TO THE MUNICIPAL DRAINAGE SYSTEM MUST BE APPROVED BY THE TOWN ENGINEER PRIOR TO DISCHARGE.
12. NO MATERIAL TO BE STOCKPILED OVER SOIL ABSORPTION SYSTEM AND INFILTRATION BASIN.

CONCRETE TRUCK WASH AREA

**NOT TO SCALE**



NOTES:

1. SUBJECT PLOT IS SHOWN AS ASSESSORS MAP 17, LOT 08A. RECORD TITLE FROM BOOK 58111, PAGE 144.
  2. BELOW-GROUND, ARE BASED ON THIS PLAN, BOTH ABOVE- AND BELOW-GROUND, ARE BASED ON DIRECT FIELD OBSERVATIONS MADE BY METROST ENGINEERING, INC. PERSONNEL DURING A FIELD SURVEY, RECORD PLAN LOCATIONS, OR DISGATE PAINT-INDICATORS METROST ENGINEERING, INC. DOES NOT WARRANT THAT THE SURVEY RESULTS SHOWN ON THIS PLAN, EITHER ABOVE- OR BELOW-GROUND, ARE THE CORRECT LOCATION OF THE PROPERTY TO BE ADJACENT TO. METROST ENGINEERING, INC. DOES NOT WARRANT OR PROVIDE AN EXPRESS OR IMPLIED WARRANTY THAT ALL SUBSURFACE IMPROVEMENTS ARE SHOWN OR ARE SHOWN CORRECTLY, INCLUDING, BUT NOT LIMITED TO, UTILITIES, UNDERGROUND WALLS, FOUNDATIONS, AND/OR OTHER MAN-MADE IMPROVEMENTS THAT LIE BENEATH THE GROUND SURFACE AT THE TIME OF THE SURVEY.
  3. CONTRACTOR IS SOLELY RESPONSIBLE FOR ESTABLISHING EXISTING LOCATIONS OF ALL SUB-SURFACE UTILITIES AND MAN-MADE IMPROVEMENTS, AND FOR VERIFYING THE LOCATION OF ANY UTILITIES OR REPAIR EXISTING UTILITIES IN THE EVENT OF DAMAGE OCCURRING DURING CONSTRUCTION. MME IS NOT RESPONSIBLE OR LIABLE FOR DELAYS OR COSTS ASSOCIATED WITH REMOVING/REPLACING/RELOCATION OF EXISTING UTILITIES REGARDLESS OF WHETHER SAID UTILITIES ARE ACCURATELY DEPICTED ON THIS SURVEY.
  4. THE PROPERTY DESCRIBED ON THIS SURVEY LIES PARTIALLY WITHIN A SPECIAL FLOOD HAZARD AREA AS DEFINED BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY. THE PROPERTY LIES WITHIN ZONE "X" OF THE FLOOD INSURANCE RATE MAP IDENTIFIED AS MAP NUMBER 260207C02082E BEARING AN EFFECTIVE DATE OF JULY 4, 2011.
5. THE PROPERTY IS SUBJECT TO A LEASE AGREEMENT RECORDED IN BOOK 55025, PAGE 301.

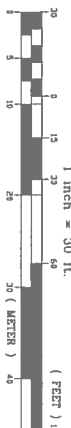
## REVISIONS

NO.	DATE	DESCRIPTION	BY
2	12/14/16	ADDRESS CONSERVATION COMMISSION COMMENTS	BTN
1	12/04/16	ADDRESS CON COM AND GRAVES ENG. COMMENTS	BTN

*N/F*  
MACILL REAL ESTATE HOLDINGS, LLC  
ASSESSORS MAP 18, LOT 1  
BOOK 43169, PAGE 129

FOR METROWEST ENGINEERING, INC. DATE  
ROBERT A. CEMMA, P.E.(CIVIL) # 31967  
P.L.S. # 37046

GRAPHIC SCALE



# EROSION AND SEDIMENT

#104 CREEPER HILL ROAD  
IN  
GRAFTON, MASS

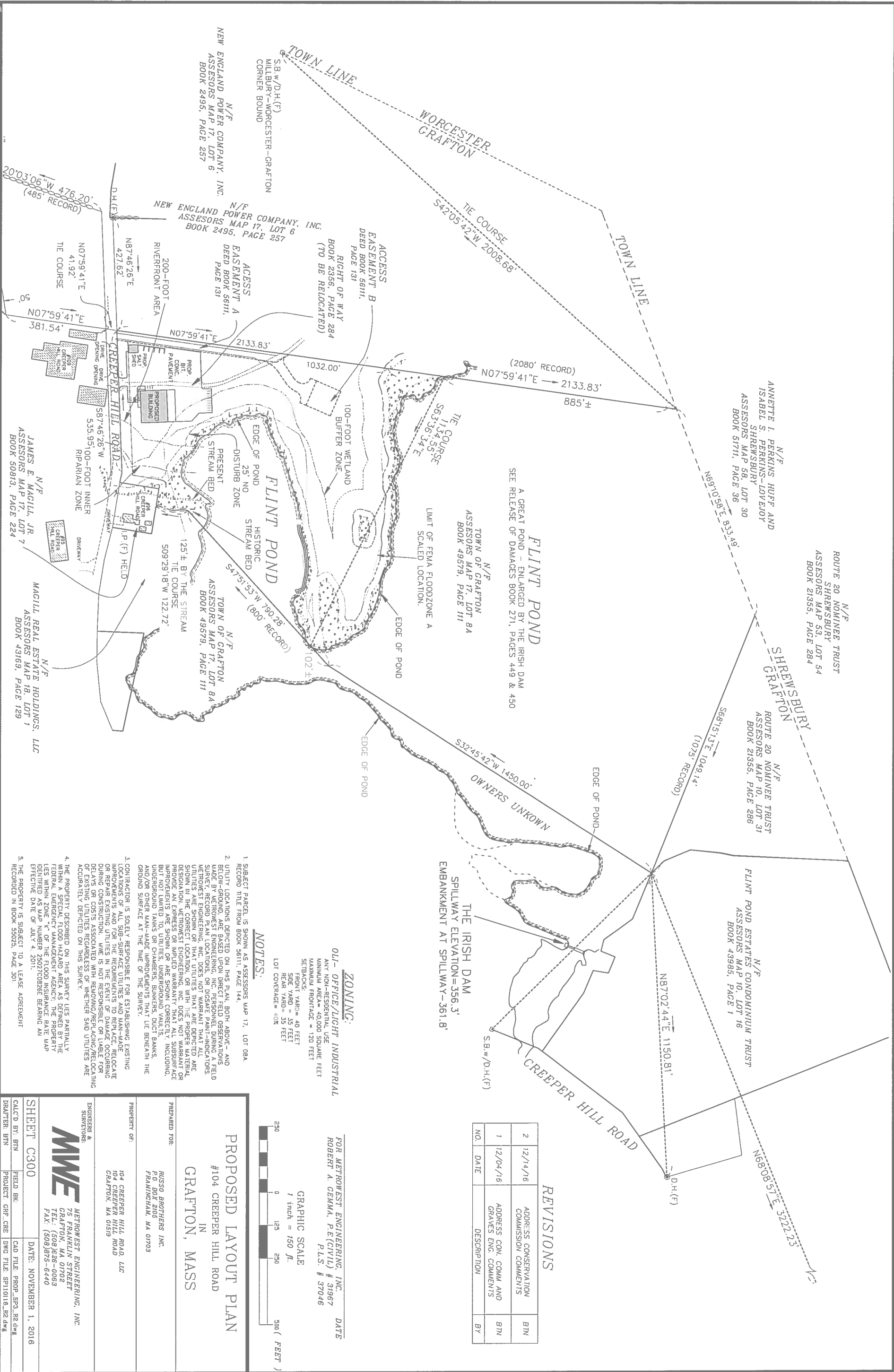
PREPARED FOR  
RUSSO BROTHERS INC.  
P O BOX 2105  
FRAMINGHAM, MA 01701

PROPERTY OF  
104 CREEPER HILL ROAD, LL  
104 CREEPER HILL ROAD  
CRAFTON, MA 01519

**MVE**  
METROWEST ENGINEERING, INC.  
75 FRANKLIN STREET  
CRAFTON, MA 01702  
TEL: (508) 626-0063  
FAX: (508) 875-6440

SHEET C200 | DATE: NOVEMBER 1, 2016

CALC'D BY: BTN	FIELD BK:	CAD FILE: PROP_SP3_R1.dwg
DRAFTER: BTN	PROJECT: CRF_CRE	DWG FILE: SP110116_R1.dwg







ZONING:

01 - OFFICE/LIGHT INDUSTRIAL  
ANY NON-RESIDENTIAL USE  
MAXIMUM AREA 40,000 SQUARE FEET  
MAXIMUM FRONTAGE = 120 FEET  
SETBACKS:  
FRONT YARD = 40 FEET  
SIDE YARD = 35 FEET  
REAR YARD = 35 FEET  
LOT COVERAGE = 40%

LEGEND

- BERM
- DRAIN CATCH BASIN
- DRAIN MANHOLE
- ELECTRIC LINE
- FENCE
- GAS LINE
- GAS VALVE
- CURB
- GUARD POST
- HANDICAP PARKING SPACE
- HOIST
- HYDRO PUMP
- NUMBER OF PARKING SPA
- OBSERVATION WELL
- PAVEMENT EDGE
- SEWER LINE
- SIGN
- SEWER MANHOLE
- TELEPHONE MANHOLE
- TELEPHONE LINE
- UTILITY MANHOLE
- UTILITY POLE
- WATER GATE
- WATER LINE

TREE DESCRIPTION LEGEND

CODE	DESCRIPTION
WB#	WHITE BIRCH
BC#	BLACK CHERRY
RM#	RED MAPLE
RO#	RED OAK
PR#	PITCH PINE
WP#	WHITE PINE

DETAIL
TREE LOCATION
TREE CODE
TREE DIAMETER

NOTES:

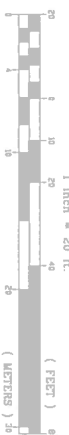
- SUBJECT PARCEL IS SHOWN AS ASSESSORS MAP 17, LOT 08A
- RECORD TITLE FROM BOOK 5611, PAGE 144.
- UTILITY LOCATIONS DEPICTED ON THIS PLAN, BOTH ABOVE- AND BELOW-GROUND, ARE BASED UPON DIRECT FIELD OBSERVATIONS MADE BY METROWEST ENGINEERING, INC. PERSONNEL DURING FIELD SURVEY. RECORDS OF UTILITY LOCATIONS OR PLACED UTILITIES ARE SHOWN ON THIS PLAN FOR INFORMATION ONLY. METROWEST ENGINEERING, INC. DOES NOT WARRANT OR PROVIDE AN EXPRESS OR IMPLIED WARRANTY THAT ALL SUBSURFACE IMPROVEMENTS ARE SHOWN OR ARE SHOWN CORRECTLY, INCLUDING, BUT NOT LIMITED TO, UTILITIES, UNDERGROUND VAULTS, UNDERGROUND TANKS OR CHAMBERS, BUNKERS, DUCT BANKS, AND/OR OTHER MAN-MADE IMPROVEMENTS THAT LIE BENEATH THE GROUND SURFACE AT THE TIME OF THE SURVEY.
- CONTRACTOR IS SOLELY RESPONSIBLE FOR ESTABLISHING EXISTING LOCATIONS OF ALL SUB-SURFACE UTILITIES AND MAN-MADE IMPROVEMENTS AND FOR THE REQUIREMENTS TO BE MET FOR ANY CONSTRUCTION OR REMOVAL OF EXISTING UTILITIES REGARDLESS OF ASSOCIATED WITH REMOVING/REPLACING/RELOCATING OF EXISTING UTILITIES. METROWEST ENGINEERING, INC. IS NOT RESPONSIBLE FOR DELAYS OR COSTS ASSOCIATED WITH REMOVING/REPLACING/RELOCATING OF EXISTING UTILITIES REGARDLESS OF WHETHER SAID UTILITIES ARE ACCURATELY DEPICTED ON THIS SURVEY.
- THE PROPERTY DESCRIBED ON THIS SURVEY LIES PARTIALLY WITHIN A SPECIAL FLOOD HAZARD AREA AS DEFINED BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY. THE PROPERTY LIES WITHIN ZONE "X" OF THE FLOOD INSURANCE RATE MAP IDENTIFIED AS MAP NUMBER 2502708926E BEARING AN EFFECTIVE DATE OF JULY 4, 2011.
- THE PROPERTY IS SUBJECT TO A LEASE AGREEMENT RECORDED IN BOOK 55025, PAGE 301.

NO.	DATE	DESCRIPTION	BY
2	12/14/16	ADDRESS CORRECTION	BTN
1	12/04/16	ADDRESS COR. COMM. AND GRAVES ENG. COMMENTS	BTN

REVISIONS

FOR METROWEST ENGINEERING, INC. DATE  
ROBERT A. GEMMA, P.E.(CIVIL) # 31967  
P.L.S. # 37046

GRAPHIC SCALE  
1 inch = 20 ft.



PROPOSED GRADING PLAN  
#104 CREEPER HILL ROAD  
IN  
GRAFTON, MASS

PREPARED FOR:  
RUSSO BROTHERS INC.  
P.O. BOX 2005  
FRAMINGHAM, MA 01703

PROPERTY OF:  
104 CREEPER HILL ROAD, LLC  
104 CREEPER HILL ROAD  
GRAFTON, MA 01519

ENGINEERS & SURVEYORS  
**MWE** METROWEST ENGINEERING, INC.  
75 FRANKLIN STREET  
GRAFTON, MA 01702  
TEL: (508)628-0063  
FAX: (508)675-6440

SHEET C400

CALCD BY: BTN FIELD BR: CAD FILE: PROP-SR3\_R2.dwg  
DRAWN BY: BTN PROJECT: GRP-CHE DWG FILE: SP11016\_R2.dwg

DATE: NOVEMBER 1, 2016

OLI- OFFICE/LIGHT INDUSTRIAL  
ANY NON-RESIDENTIAL USE  
MINIMUM AREA= 40,000 SQUARE FEET  
MAXIMUM FRONTAGE = 120 FEET  
SETBACKS:  
FRONT YARD= 40 FEET  
SIDE YARD = 35 FEET  
REAR YARD= 35 FEET  
LOT COVERAGE= 40%

- LEGEND*
- |       |                          |
|-------|--------------------------|
| ===== | BERM                     |
| □     | CATCH BASIN              |
| ④     | DRAIN LINE               |
| ④     | DRAIN MANHOLE            |
| —○—   | ELECTRIC LINE            |
| —○—   | FENCE                    |
| —○—   | GAS LINE                 |
| ⊗     | GAS GATE                 |
| ===== | CURB                     |
| ④     | CURB POST                |
| ④     | HANDICAP PARKING SPACE   |
| ④     | HYDRANT                  |
| ④     | LIGHT POST               |
| ④     | NUMBER OF PARKING SPACES |
| ④     | OBSERVATION WELL         |
| ④     | SEWER EDGE               |
| —S—   | SEWER LINE               |
| ④     | SIGN                     |
| ④     | SEWER MANHOLE            |
| ④     | TELEPHONE MANHOLE        |
| ④     | TELEPHONE LINE           |
| ④     | UTILITY POLE             |
| ④     | WATER GATE               |
| ④     | WATER LINE               |

**ZONING:**  
 OFFICE/LIGHT INDUSTRIAL  
 ANY NON-RESIDENTIAL USE  
 MINIMUM AREA = 40,000 SQUARE FEET  
 MAXIMUM FRONTAGE = 120 FEET  
 SETBACKS:  
 FRONT YARD = 40 FEET  
 SIDE YARD = 35 FEET  
 REAR YARD = 35 FEET  
 LOT COVERAGE = 40%

**LEGEND**

- BURN CATCH BASIN
- DRAIN LINE
- DRAIN MANHOLE
- ELECTRIC LINE
- FENCE
- GAS LINE
- GAS CATE
- CURB
- HANDICAP PARKING SPACES
- LIGHTPOST
- NUMBER OF PARKING SPACES
- OBSERVATION WELL
- PAVEMENT EDGE
- SEWER LINE
- SIGN
- SEWER MANHOLE
- TELEPHONE MANHOLE
- UTILITY MANHOLE
- UTILITY POLE
- WATER GATE
- WATER LINE

**BOOK 2495,**

**LOT 1**  
 666,271 ± S.F.  
 15.30 ± ACRES

**FLINT POND**

**WETLAND**

**200-FOOT RIVERFRONT AREA**

**100-FOOT BUFFER ZONE**

**100-FOOT WETLAND BUFFER**

**LIMIT OF FEMA FLOODZONE A SCALED LOCATION**

**FLOOD ZONE SHOWN IS NOT DEFINED BY ELEVATION BUT SCALED FROM CURRENT FEMA MAPPING. SPILLWAY ELEVATION AT THE IRISH DAM IS 356.3- FEET. TOP OF DAM ELEVATION = 358.8- FEET. ELEVATION ESTIMATED AT ELEVATION 353.0**

**1. SUBJECT PARCEL**  
 2. UTILITY LOCATION  
 3. PROPOSED ROAD  
 4. PROPOSED ROAD  
 5. THE PROPER

1. SUBJECT MAP IS SHOWN AS ASSESSMENT MAP 17, LOT 00A, SECTION TWO, T10N, R10E, S44.
2. UTILITY LOCATIONS DEPicted ON THIS PLAN BY NETOW, ABOVE- AND BELOW-GROUND, ARE BASED UPON DIRECT FIELD OBSERVATIONS MADE BY METROWEST ENGINEERING, INC. PERSONNEL DURING A FIELD SURVEY. RECORD PLANS AND LOCATIONS, OR DISCAGE PAINT-INDICATORS, METROWEST ENGINEERING, INC. DOES NOT WARRANT THAT ALL UTILITIES ARE SHOWN OR THAT UTILITIES THAT ARE DEPICTED ARE SHOWN IN THE CORRECT LOCATION, OR WITH THE PROPER DEPTH. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE LOCATION, DEPTH, OR OTHER EXPERTS OR UNIDENTIFIED WORKERS THAT SUBSURFACE IMPROVEMENTS ARE SHOWN OR ARE SHOWN CORRECTLY, INCLUDING, BUT NOT LIMITED TO, UTILITIES, UNDERGROUND WATERS, UNDERGROUND TANKS OR CHAMBERS, BUNKERS, DUCT BANKS, AND/OR OTHER MAN-MADE IMPROVEMENTS THAT LIE BENEATH THE GROUND SURFACE AT THE TIME OF THE SURVEY.
3. CONTRACTOR IS SOLELY RESPONSIBLE FOR ESTABLISHING EXISTING LOCATIONS OF ALL SUB-SURFACE UTILITIES AND MAN-MADE IMPROVEMENTS AND FOR THE REQUIREMENTS TO REPLACE, RELOCATE OR REPAIR EXISTING UTILITIES IN THE EVENT OF DAMAGE OCCURRING DURING CONSTRUCTION. MME IS NOT RESPONSIBLE FOR DELAYS OR COSTS ASSOCIATED WITH REMOVAL/RELOCATING OR EXISTING UTILITIES REGARDLESS OF WHETHER SAND UTILITIES ARE ACCURATELY LOCATED ON THIS SURFACE.
4. THE PROPERTY DESCRIBED ON THIS SURVEY LIES PARTIALLY WITHIN A SPECIAL FLOOD HAZARDOUS AREA AS DETERMINED BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY. THE PROPERTY LIES WITHIN ZONE 1 OF THE SPECIAL FLOOD HAZARDOUS AREA IDENTIFIED AS MAP NUMBER 25027-000202E BEARING AN EFFECTIVE DATE OF JULY 4, 2011.

<u>CODE</u>	<u>DESCRIPTION</u>
-------------	--------------------

**DETAIL**

TREE LOCATION

TREE CODE **0002**

TREE DIAMETER

WG# \_\_\_\_\_

BC# \_\_\_\_\_

RM# \_\_\_\_\_

RO# \_\_\_\_\_

PP# \_\_\_\_\_

WP# \_\_\_\_\_

WHITE BIRCH

BLACK CHERRY

RED MAPLE

RED OAK

PITCH PINE

WHITE PINE

2	12/14/16	ADDRESS CONSERVATION COMMISSION COMMENTS	BY
1	12/04/16	ADDRESS CON. COMM AND GRAVES ENG. COMMENTS	BY
NO.	DATE	DESCRIPTION	BY

## #104 CREEPER HILL ROAD

PREPARED FOR: RUSCO BROTHERS INC.  
P.O. BOX 108  
FRANKLINHAM, MA 01703

---

PROPERTY OF: 104 CREEPER HILL ROAD, LLC  
104 CREEPER HILL ROAD  
CRATTON, MA 01519

# 2015 SURVEYORS 2015

**MVE**  
METROWEST ENGINEERING  
75 FRANKLIN STREET  
CRAFTON, MA 01702  
TEL.: (508)626-0063  
FAX: (508)875-6440

SHEET C401

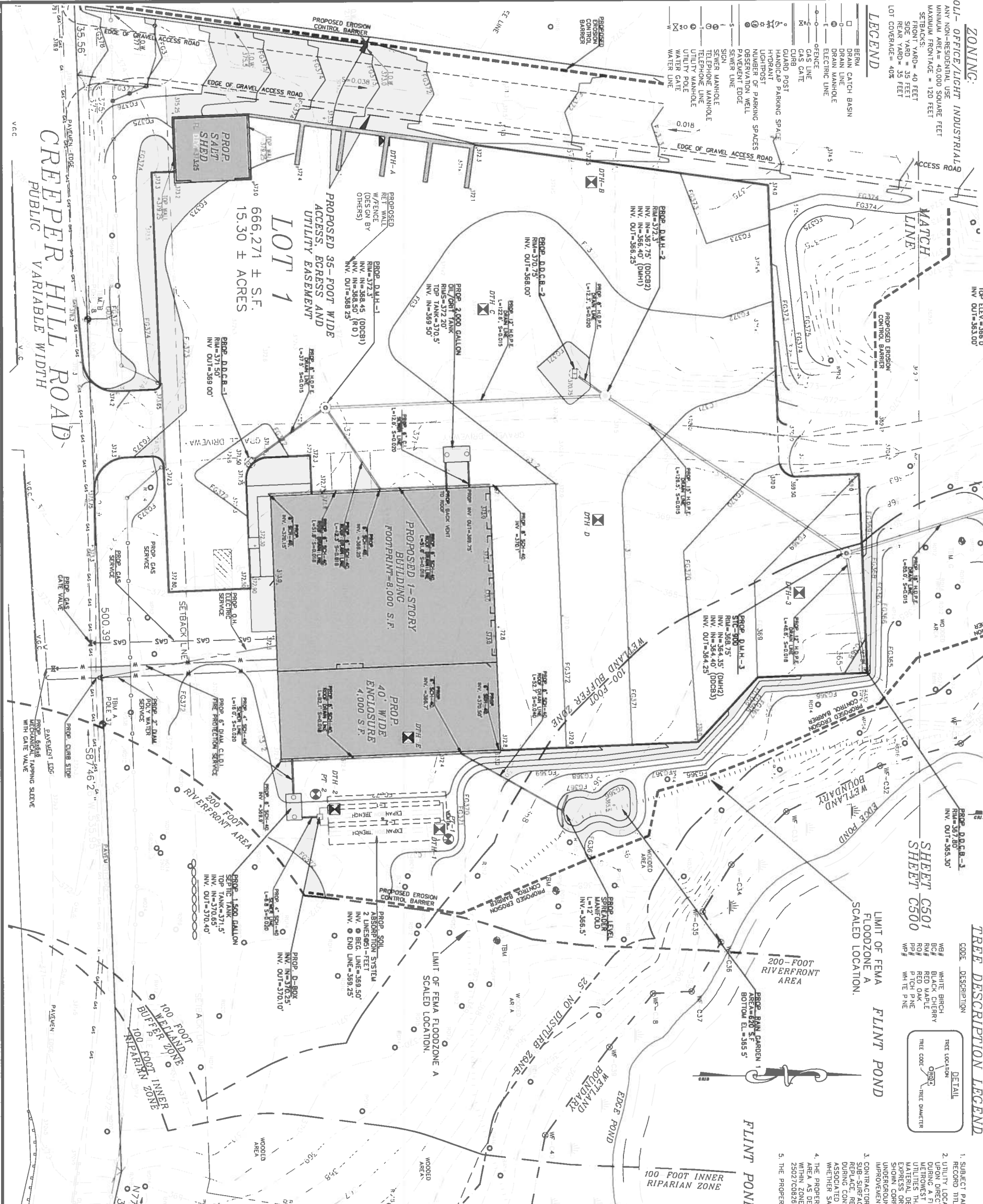
CALC'D BY BTN	FIELD BK	CAD FILE PROP_SP3_R2.dwg
DRAFTER: BTN	PROJECT GRP_CRE	DWG FILE SP110116_R2.dwg

ZONING:

OFFICE/LIGHT INDUSTRIAL  
ANY NON-RESIDENTIAL USE  
MINIMUM AREA= 40,000 SQUARE FEET  
MAXIMUM FRONTAGE = 120 FEET  
SETBACKS:  
FRONT YARD= 40 FEET  
SIDE YARD= 35 FEET  
REAR YARD= 35 FEET  
LOT COVERAGE= 40%

LEGEND

- BERM
- DRAIN CATCH BASIN
- DRAIN LINE
- DRAIN MANHOLE
- ELECTRIC LINE
- OFFICE
- GAS LINE
- GAS GATE
- CURB
- GUARD POST
- HANDICAP PARKING SPACE
- HYDRANT
- INTERSECTION
- NUMBER OF PARKING SPACES
- OBSERVATION WELL
- PAYMENT EDGE
- SEWER LINE
- SIGN
- SEWER MANHOLE
- TELEPHONE MANHOLE
- UTILITY MANHOLE
- UTILITY POLE
- WATER GATE
- WATER LINE



TREE DESCRIPTION LEGEND

CODE	DESCRIPTION	DETAIL
WB#	WHITE BIRCH	TREE LOCATION
BC#	BLACK CHERRY	TREE CODE
RM#	RED MAPLE	TREE DIAMETER
PO#	RED OAK	
PL#	RED PINE	
WP#	WHITE PINE	

NOTES:

- SUBJECT PARCEL IS SHOWN AS ASSESSORS MAP 17, LOT 00A
- RECORD TITLE FROM BOOK 5011, PAGE 144
- UTILITY LOCATIONS DEPICTED ON THIS PLAN, BOTH ABOVE- AND BELOW-GROUND, ARE BASED ON RECORD DRAWINGS, FIELD SURVEY, RECORD PLAN LOCATIONS, OR DISCREET PAINT-INDICATORS. METROWEST ENGINEERING, INC. DOES NOT WARRANT THAT ALL UTILITIES ARE SHOWN OR THAT UTILITIES THAT ARE DEPICTED ARE SHOWN IN THE CORRECT LOCATION, OR WITH THE PROPER MATERIAL DESIGNATION. METROWEST ENGINEERING, INC. DOES NOT WARRANT OR PROVIDE AN EXPRESS OR IMPLIED WARRANTY THAT ALL SUBSURFACE IMPROVEMENTS ARE SHOWN OR ARE UNDERGROUND. OWNERS OF UTILITIES, INCLUDING BUT NOT LIMITED TO, WATER, GAS, AND OTHER MAN-MADE IMPROVEMENTS THAT LIE BENEATH THE GROUND SURFACE AT THE TIME OF THE SURVEY.
- CONTRACTOR IS SOLELY RESPONSIBLE FOR ESTABLISHING EXISTING LOCATIONS OF ALL SUBSURFACE UTILITIES. CONTRACTOR SHALL BE RESPONSIBLE FOR THE REQUIREMENTS TO REPLACE, RELOCATE OR REPAIR EXISTING UTILITIES IN THE EVENT OF DAMAGE OCCURRING DURING CONSTRUCTION. CONTRACTOR SHALL BE RESPONSIBLE FOR DELAYS OR COSTS ASSOCIATED WITH REMOVING/REPLACING/RELOCATING OF EXISTING UTILITIES RECORDLESS OF WHETHER SAID UTILITIES ARE ACCURATELY DEPICTED ON THIS SURVEY.
- THE PROPERTY DESCRIBED ON THIS SURVEY LIES PARTIALLY WITHIN A SPECIAL FLOOD HAZARD AREA AS DEFINED BY THE FEDERAL INSURANCE RATE MAP IDENTIFIED AS MAP NUMBER 25027C0828E BEARING AN EFFECTIVE DATE OF JULY 4, 2011.
- THE PROPERTY IS SUBJECT TO A LEASE AGREEMENT RECORDED IN BOOK 55025, PAGE 301.

REVISIONS

NO.	DATE	ADDRESS CON. COMM. AND GRAYES ENG. COMMENTS	BY
2	12/14/16	ADDRESS CONSERVATION COMMISSION COMMENTS	BTN
1	12/04/16	ADDRESS CON. COMM. AND GRAYES ENG. COMMENTS	BTN

FOR METROWEST ENGINEERING, INC. DATE  
ROBERT A. GENMA, P.E.(CIVIL) # 31867  
P.L.S. # 37046

PROPOSED SITE PLAN  
#104 CREEPER HILL ROAD  
IN  
GRAFTON, MASS

PREPARED FOR  
RUSSO BROTHERS INC.  
P.O. BOX 2105  
FRANKLIN, MA 01703

ENGINEERS & SURVEYORS  
**MWE** METROWEST ENGINEERING, INC.  
75 FRANKLIN STREET  
GRAFTON, MA 01702  
TEL: (508)626-0063  
FAX: (508)875-6440

SHEET C500  
DATE: OCTOBER 24, 2016  
CALCD BY: BTN  
FIELD BK  
DRAFTER: BTN  
PROJECT: CRT. CRT. DWG FILE: SP10116\_R2.dwg





## OLI-OFFICE/LIGHT INDUSTRIAL

## LEGEND

## BER

- |   |                          |
|---|--------------------------|
| □ | DRAIN CATCH BASIN        |
| ○ | DRAIN MANHOLE            |
| — | ELECTRIC LINE            |
| ○ | FENCE                    |
| — | GAS LINE                 |
| ⊗ | GAS GATE                 |
| — | CURB                     |
| △ | MURDER POST              |
| ⊗ | HIGH-ARCH PARKING SPACE  |
| ⊗ | HYDRANT                  |
| ⊗ | LIGHTPOST                |
| ⊗ | NUMBER OF PARKING SPACES |
| ⊗ | OBSERVATION WELL         |
| ⊗ | SEWAGE DITCH             |
| — | SEWAGE LINE              |
| 5 | SIGN                     |
| ② | SEWER MANHOLE            |
| ① | TELEPHONE MANHOLE        |
| ② | TELEPHONE LINE           |
| ② | UTILITY MANHOLE          |
| ② | UTILITY POLE             |
| — | WATER GATE               |
| — | WATER LINE               |



CODE	DESCRIPTION
WB#	WHITE BIRCH
BC#	BLACK CHERRY
RM#	RED MAPLE
RD#	RED DAK
PT#	ITCHY PINE
WP#	WHITE PINE

**DETAIL**

The diagram shows a tree with four labels and arrows pointing to specific parts: 'TREE LOCATION' points to the top of the tree, 'TREE CODE' points to a small square on the trunk, 'TREE DIAMETER' points to the trunk, and 'ORN.' points to a small square on the trunk.

1. SUBJECT PARCEL IS SHOWN AS ASSESSORS MAP 17. LOT 08A  
RECORD THE ABOVE BOOK ENTRY PAGE 144

2. UTILITY LOCATIONS DEDICED ON THIS PLAN, BOTH ABOVE- AND BELOW-GROUND ARE BASED ON RECORD UTILITY RECORD BOOK 58111, PAGE 12.
3. UTILITY LOCATIONS DEDICED ON THIS PLAN, BOTH ABOVE- AND BELOW-GROUND ARE BASED ON RECORD UTILITY RECORD BOOK 58111, PAGE 12.
4. DURING A FIELD SURVEY, RECORD PLANT LOCATIONS, OR DISCAGE PAINT-INDICATORS, OR METERBOX ENGINEERING, INC. DOES NOT WARRANT THAT ALL UTILITIES ARE SHOWN OR THAT UTILITIES THAT ARE DEDICATED ARE SHOWN IN THE CORRECT LOCATION, OR WITH THE PROPER MATERIAL DESIGNATION, METROWEST ENGINEERING, INC. DOES NOT WARRANT OR PROVIDE AN EXPRESS OR IMPLIED WARRANTY OF ANY KIND, INCLUDING BUT NOT LIMITED TO, UTILITIES, UNDERGROUND VALVES, UNDERGROUND TANKS OR CHAMBERS, BURNERS, DUCT BANKS, AND/OR OTHER MAN-MADE IMPROVEMENTS THAT LIE BENEATH THE GROUND SURFACE AT THE TIME OF THE SURVEY.
5. CONTRACTOR IS SOLELY RESPONSIBLE FOR ESTABLISHING EXISTING LOCATIONS OF ALL SUB-SURFACE UTILITIES AND MAN-MADE IMPROVEMENTS AND FOR THE REQUIREMENTS TO REPLACE, RELOCATE, OR REPAIR EXISTING UTILITIES IN THE EVENT OF DAMAGE OCCURRING DURING CONSTRUCTION. MME IS NOT RESPONSIBLE OR LIABLE FOR DELAYS OR COSTS ASSOCIATED WITH REMOVAL/REPLACING/RELOCATING OF EXISTING UTILITIES REGARDLESS OF WHETHER SAID UTILITIES ARE ACCURATELY DEDICATED ON THIS SURVEY.
6. THE PROPERTY DESCRIBED ON THIS SURVEY LIES PARTIALLY WITHIN A SPECIAL FLOOD HAZARD AREA AS DEFINED BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY. THE AREA IS DEFINED BY THE FLOOD INSURANCE RATE MAP IDENTIFIED AS MAP NUMBER 25027-00025E BEARING AN EFFECTIVE DATE OF JULY 4, 2011.
7. THE PROPERTY IS SUBJECT TO A LEASE AGREEMENT RECORDED IN BOOK 55025, PAGE 301.

### PROPOSED PLANTING SCHEDULE

SPECIES	QUANTITY
---------	----------

SYMBOL	SPECIES	QUANTITY	SIZE
(75) B	GREEN ASH (FRAXINUS PENNSYLVANICA)	4	2.5" CALIPER
(68) A	PIN OAK (QUERCUS PALSTRUS)	6	2.5" CALIPER
(75) A	SUGAR MAPLE (ACEER SACHARINUM)	2	2.5" CALIPER

IES	or
-----	----

SYMBOL	SPECIES	QUANTITY	SIZE
(CA)	DOCKWOODS (CORNUS AMOMUM)	12	8" HIGH
(IG)	INKBERRY (ILEX GLABRA)	12	6" HIGH

## WETLAND BUFFER ZONE PLANTINGS

SYMBOL	SPECIES	QUANTITY	SIZE
(HV)	WITCH HAZEL (HAMAMELIS VIRGINIANA)	8	6' HIGH
(VT)	HIGH BUSH CRANBERRY (VIBURNUM TRILOBUM)	8	6' HIGH

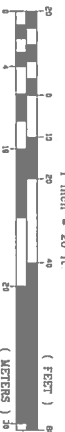
## ADDRESS CONFIDENTIALITY

2	12/1*/16	ADDRESS CONSERVATION COMMISSION COMMENTS	BTN
1	12/04/16	ADDRESS CON COM AND GRAVES ENG. COMMENTS	BTN
NO.	DATE	DESCRIPTION	BY

FLOOD ZONE SHOWN IS NOT DEFINED BY  
ELEVATION BUT SCALED FROM CURRENT FLOOD  
MAPPING. SPILLWAY ELEVATION AT THE IP  
DAM IS 356.3- FEET. TOP OF DAM  
ELEVATION=361.8 FEET  
100-YEAR FLOOD HAZARD ELEVATION  
ESTIMATED AT ELEVATION 363.0'

FOR METROWEST ENGINEERING, INC. DATE \_\_\_\_\_  
ROBERT A. CEMMA, P.E.(CIVIL) # 31967  
P.L.S. # 37046

GRAPHIC SCALE  
1 inch = 30 ft



## PROPOSED LANDSCAPING PLAN

#104 CREEPER HILL ROAD

GRAFTON, MASS

**RUSSO BROTHERS INC.**  
**P.O. BOX 2105**

FRAMINGHAM, MA 01703

104 CREEPER HILL ROAD, LEXINGTON, MA 01846  
104 CREEPER HILL ROAD  
CREATON, MA 01819

104 CREEPER HILL ROAD  
CRAFTON, MA 01519

# LOWE ENGINEERING & SURVEYORS

**MYE**  
MEINOMESI ENGINE  
75 FRANKLIN STREET  
CRAFTON, MA 01702  
TEL: (508)626-0066  
FAX: (508)626-0446

FAX: (508) 875-6440

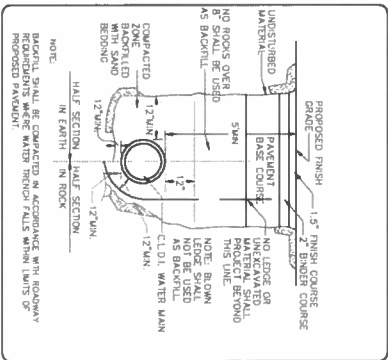
SHEET C600

DATE: NOVEMBER 1, 2016

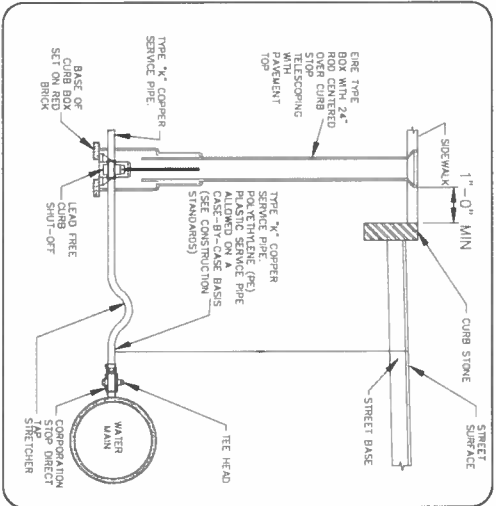
CALC'D BY: BTN	FIELD BK:	CAD FILE: PROP_SP3_R2.dwg
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DRAFTER: BTN	PROJECT GRF_CRE	DWG FILE SP110116_R2.dwg
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WATER MAIN TRENCH DETAIL  
NOT TO SCALE



TYPICAL WATER SERVICE CONNECTION  
NOT TO SCALE



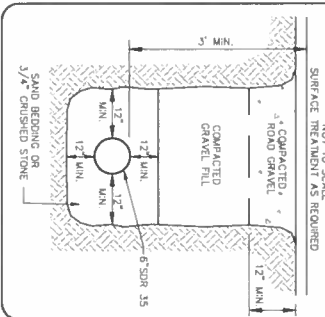
UTILITY NOTES

- 1.) ALL WORK MUST BE INSPECTED BY A DEPARTMENT OF PUBLIC WORKS UTILITY INSPECTOR TO SCHEDULE A PRE-CONSTRUCTION MEETING ON INSPECTION CALL DRAFTING D.P.W. MEMORANDUM PRIOR TO THE START OF WORK.
- 2.) ANY PROPOSED SURFACE OPENINGS AND EXCAVATION WORK WITHIN THE TOWN RIGHT OF WAY LIMITS WILL BE CONDUCTED IN ACCORDANCE WITH THE TOWN OF GRAFTON SPP POLICY.
- 3.) ALL DRAINAGE, WATER AND SEWER WORK (OUTSIDE OF THE BUILDING FOOTPRINT) SHALL BE PERFORMED BY A LICENSED DRAINAGE DRAINLAYER.
- 4.) A TRENCH OPENING PERMIT (TOP) SHALL BE OBTAINED PRIOR TO THE EXCAVATION OF ANY TRENCH. A TRENCH IS DEFINED UNDER MASS REGS. 802.00 AS AN EXCAVATION DEEPER THAN THREE-FEET IN DEPTH AND LESS THAN 15-FEET BETWEEN SOIL WALLS AS MEASURED FROM THE BOTTOM.
- 5.) ALL PROPOSED UTILITY SERVICE WORK SHALL COMPLY WITH THE TOWN OF GRAFTON D.P.W. CONSTRUCTION STANDARDS.
- 6.) CONTRACTOR IS SOLELY RESPONSIBLE FOR ESTABLISHING EXISTING LOCATIONS OF ALL SUB-SURFACE UTILITIES AND REQUIREMENTS TO REPELACE, RELOCATE OR REPAIR EXISTING UTILITIES. WORK IS NOT RESPONSIBLE OR LIABLE FOR DELAYS OR COSTS ASSOCIATED WITH REDWORK/REPLACING/RELOCATING OF EXISTING UTILITIES.

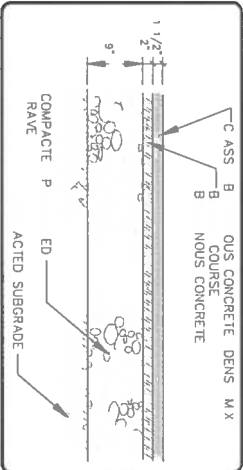
PAVEMENT AND BASE MATERIALS AND INSTALLATION

- 1.) ALL MATERIALS AND CONSTRUCTION METHODS SHALL COMPLY WITH THE TOWN OF GRAFTON DEPARTMENT OF PUBLIC WORKS CONSTRUCTION STANDARDS.
- 2.) BITUMINOUS PAVING SHALL NOT BE PLACED WHEN AMBIENT TEMPERATURE IS BELOW 40-DEGREES FAHRENHEIT, OR WHEN THERE IS FROST IN THE BASE, OR WHEN WEATHER CONDITIONS ARE UNSUITABLE IN ANY WAY.
- 3.) CONTRACTOR SHALL SCAVOUT ALL EXISTING TRENCHES AND EXCAVATIONS WHEN LOCATED WITHIN LIMITS OF EXISTING PAVEMENT. PAVEMENT BREAKER MAY BE USED FOR INITIAL EXCAVATION AND A SCAVOUT MAY BE EMPLOYED TO PROVIDE NEATER CUT FOR TRENCH PRIOR TO PLACEMENT OF NEW PAVEMENT.
- 4.) SCAVOUTS SHALL EXTEND COMPLETELY THROUGH BINDER AND TOP COURSE LAYERS.
- 5.) PAVEMENT EDGES SHALL BE TRIMMED AND CLEANED FOR A NEAT VERTICAL FACE FREE OF LOOSE MATERIALS AND DEBRIS.
- 6.) CONTRACTOR SHALL EXERCISE CARE TO PREVENT OR MINIMIZE DAMAGE TO EXISTING PAVEMENT SURROUNDING EXCAVATION WORK.
- 7.) BACKFILL IN TRENCHES SHALL BE IN ACCORDANCE WITH SPECIFIC UTILITY TRENCH REQUIREMENTS. BACKFILL MATERIAL IN TRENCHES SHALL CONSIST OF GRANULAR GRAVEL BINDER, 1\"/>
- 8.) BROKEN PAVEMENT, LARGE STONES, ROOTS AND OTHER DEBRIS SHALL NOT BE USED IN TRENCH BACKFILL.
- 9.) PERMANENT PAVEMENT SHALL CONSIST OF A TOP COURSE LAYER OF NOT LESS THAN TWO-INCHES (2\") AND A BINDER COURSE LAYER OF NOT LESS THAN THREE-INCHES (3\") AFTER COMPACTION. PAVEMENT SHALL BE MIXED IN ACCORDANCE WITH MASSDOT SPECIFICATION SECTION M311.03 (TABLE A)
- 10.) PAVEMENT SHALL BE COMPACTED AND ROLLED BY AN OSCILLATING ROLLER WITH A WEIGHT OF NOT LESS THAN 10-TONS. ROLLER SHALL MAKE AT LEAST FOUR PASSES OVER ALL NEWLY PLACED PAVEMENT.
- 11.) ROLLER SHALL NOT EXCEED A SPEED OF 3 MILES PER HOUR DURING ROLLING OPERATIONS TO ENSURE PROPER COMPACTION. ANY RIDGES, INDENTATIONS SHALL BE ROLLED ADDITIONALLY UNTIL THEY ARE REMOVED.
- 12.) GRAVEL BASE MATERIAL SHALL CONSIST OF A LAYER OF EITHER DENSE GRADE CRUSHED STONE COMPLYING WITH REQUIREMENTS OF MASSDOT SECTION W201.7 OR GRAVEL BROWW COMPLYING WITH REQUIREMENTS OF MASSDOT SECTION W103.0.
- 13.) BASE MATERIALS SHALL BE PLACED IN LIFTS NOT TO EXCEED EIGHT-INCHES (8\") AND COMPACTED TO NOT LESS THAN 95% OF THE MAXIMUM DRY DENSITY IN ACCORDANCE WITH ASHTO SPECIFICATION 199.
- 14.) SUITABLE SUBBASE MATERIALS SHALL BE COMPACTED TO NOT LESS THAN 95% OF THE MAXIMUM DRY DENSITY IN ACCORDANCE WITH ASHTO SPECIFICATION 199.
- 15.) UNSUITABLE SUBBASE MATERIAL SHALL BE REMOVED AND REPLACED WITH MATERIAL IN CONFORMANCE WITH MASSDOT SPECIFICATION W202.0. SPECIAL BROWW OR SPECIFICATION W 203.0 FOR GRAVEL BROWW.
- 16.) IMPORTED SUBBASE MATERIAL SHALL BE PLACED IN LIFTS NOT EXCEEDING TWELVE-INCHES AND COMPACTED IN TO NOT LESS THAN 95% OF THE MAXIMUM DRY DENSITY IN ACCORDANCE WITH ASHTO SPECIFICATION 199.

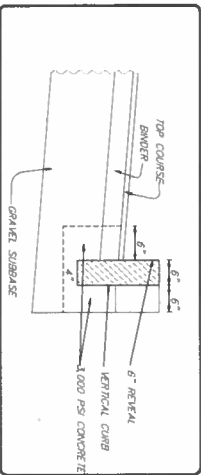
TYPICAL SEWER TRENCH



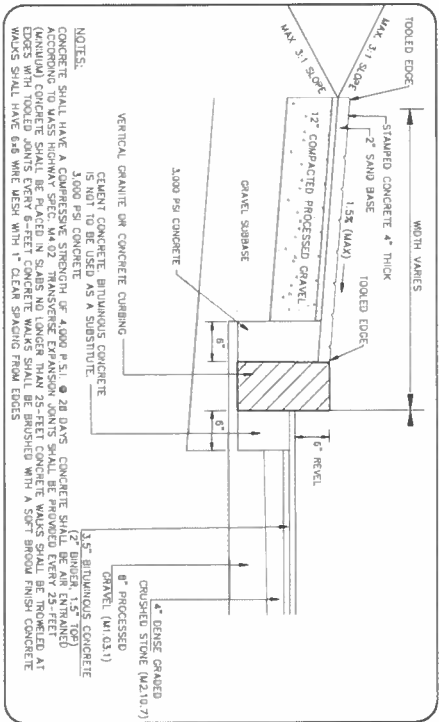
BITUMINOUS CONCRETE PAVEMENT



VERTICAL GRANITE AND CONCRETE CURB



VERTICAL GRANITE CURB & CONCRETE SIDEWALK DETAIL



REVISIONS

NO.	DATE	DESCRIPTION	BY
2	12/14/16	ADDRESS CONSERVATION COMMISSION COMMENTS	BTN
1	12/04/16	ADDRESS CON. COMM AND GRAVES ENG. COMMENTS	BTN

DETAILS PLAN  
IN  
GRAFTON, MASS

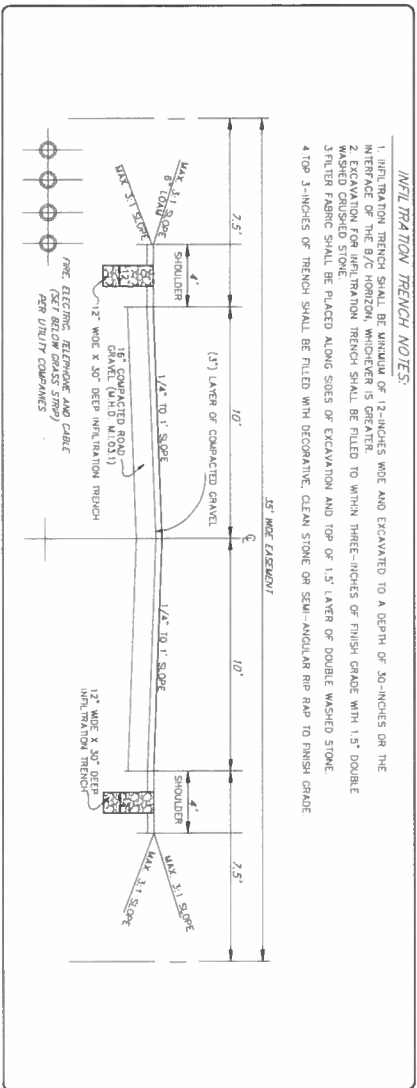
PREPARED FOR:  
RUSCO BROTHERS INC.  
P.O. BOX 2105  
FRAMINGHAM, MA 01703

PROPERTY OF:  
104 CREEPER HILL ROAD, LLC  
104 CREEPER HILL ROAD  
GRAFTON, MA 01519

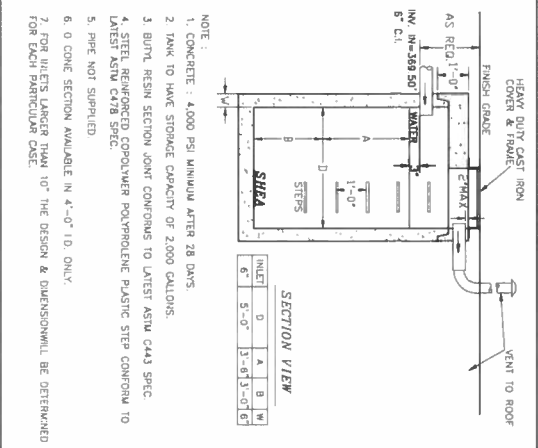
ENGINEERS & SURVEYORS:  
**MWE** METROWEST ENGINEERING, INC.  
75 FRANKLIN STREET  
GRAFTON, MA 01702  
TEL.: (508)928-0063  
FAX: (508)975-6440

SHEET C700  
CALC'D BY: BTN  
FIELD BK:  
PROJECT: GRP. CRB  
DATE: NOVEMBER 1, 2016  
CAD FILE: PROP\_SPS\_R2.dwg  
DWG FILE: SP10110\_R2.dwg

TYPICAL EASEMENT ACCESS DRIVE CROSS SECTION

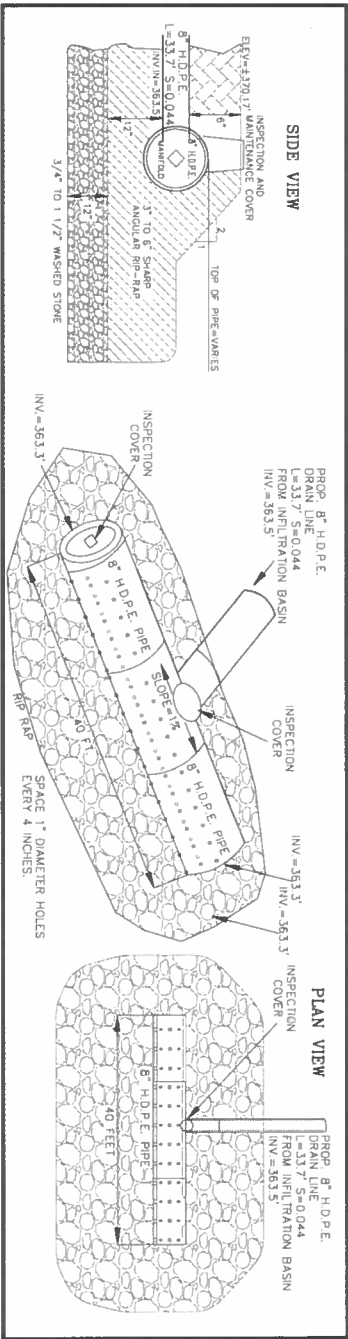


OIL & GAS SEPARATOR



- NOTE:
1. CONCRETE - 4,000 PSI MINIMUM AFTER 28 DAYS
  2. TANK TO HAVE STORAGE CAPACITY OF 2,000 GALLONS.
  3. BUILT, REIN SECTION JOINT CONFORMS TO LATEST ASTM C443 SPEC.
  4. STEEL REINFORCED COPOLYMER POLYPROPYLENE PLASTIC STEP CONFORM TO LATEST ASTM C478 SPEC.
  5. PIPE NOT SUPPLIED
  6. 0 CONE SECTION AVAILABLE IN 4'-0" I.D. ONLY.
  7. FOR INLETS LARGER THAN 10" THE DESIGN & DIMENSION WILL BE DETERMINED FOR EACH PARTICULAR CASE.

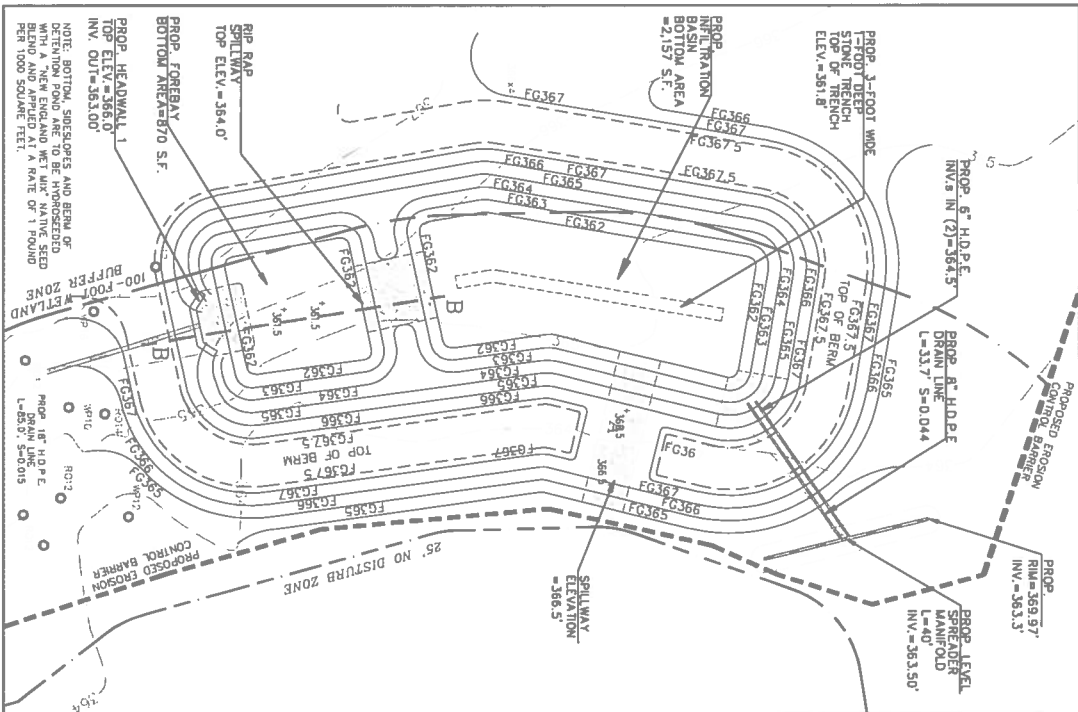
LEVEL SPREADER FLOW MANIFOLD DETAIL





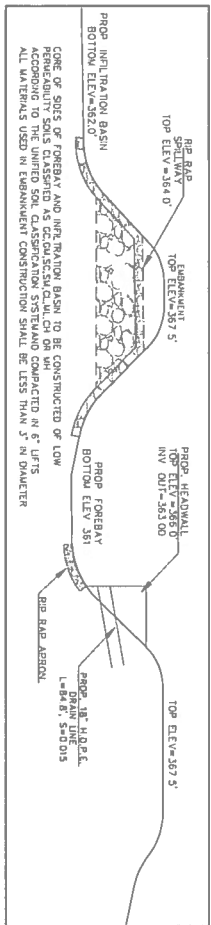
# SEDIMENT FOREBAY AND INFILTRATION BASIN DETAIL

SCALE: 1"=20'



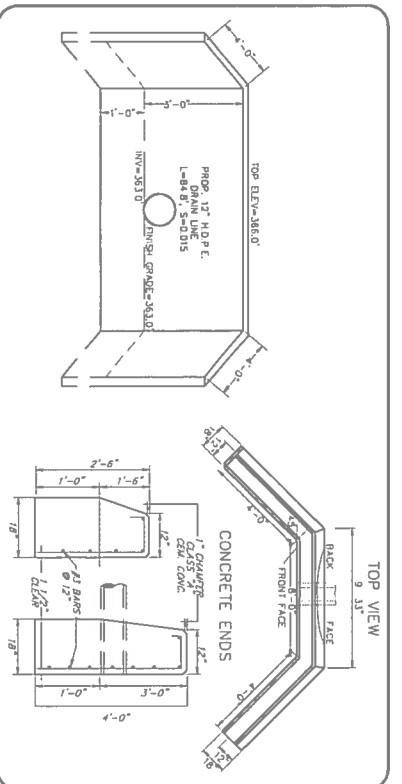
## SEDIMENT FOREBAY PROFILE B-B

NOT TO SCALE



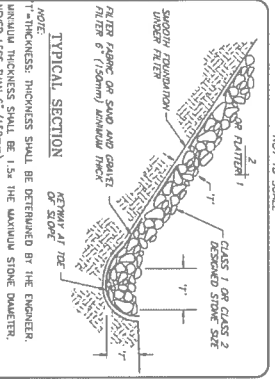
## CONCRETE HEADWALL-1 DETAIL

NOT TO SCALE



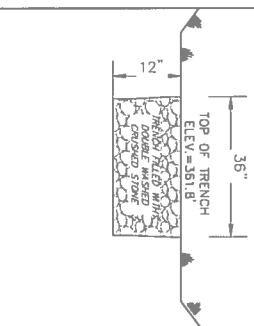
# RIP RAP PROTECTION AT POND INLET AND SPILLWAY

NOT TO SCALE



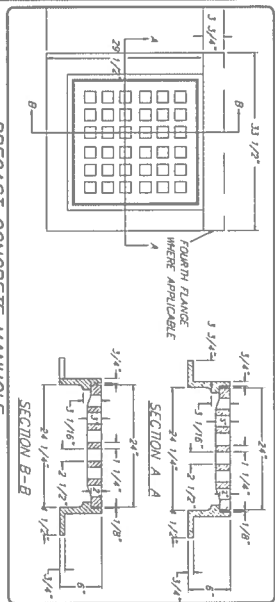
## INFILTRATION BASIN STONE TRENCH

NOT TO SCALE



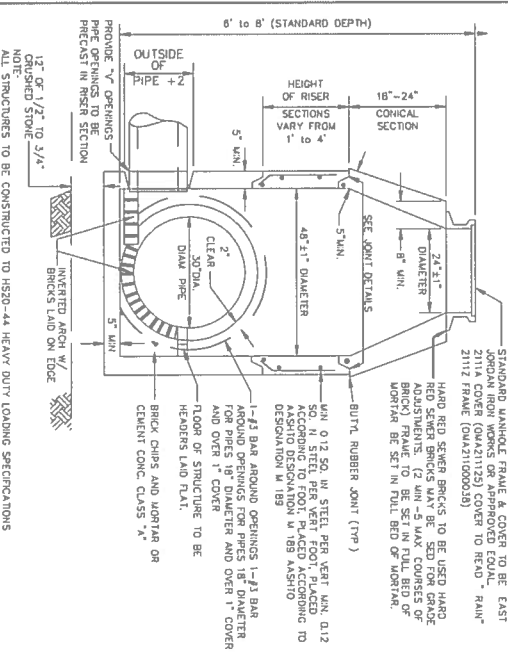
# SQUARE CATCH BASIN FRAME & GRATE

NOT TO SCALE



## PRECAST CONCRETE MANHOLE

NOT TO SCALE



# DRAINAGE MATERIALS AND INSTALLATION

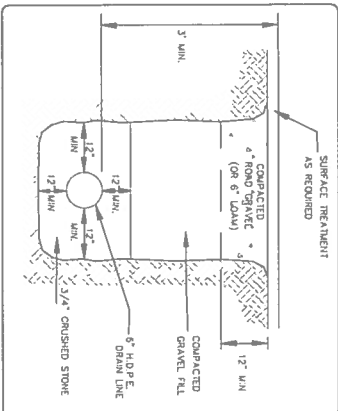
- 1) ALL MATERIALS ASSOCIATED SHALL BE IN ACCORDANCE WITH THE DESIGN PLANS, THE TOWN OF GRAFTON DEPARTMENT OF PUBLIC WORKS CONSTRUCTION STANDARDS.
- 2) STORMCATCHER UNITS SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURERS SPECIFICATIONS.
- 3) MANHOLES SHALL BE CONSTRUCTED OF REINFORCED PRECAST CONCRETE BASE SECTION, BARREL SECTION AND DOME SECTION MEETING THE REQUIREMENTS OF ASTM C78 AND ASHITO W199 CONCRETE SHALL HAVE A MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 4,000 P.S.I.
- 4) IN CASES WHERE VERTICAL TOLERANCE DOES NOT PERMIT A COPE TOP SECTION, A PRECAST CONCRETE FLAT SECTION MAY BE USED OR EXCEED BE 20 LANDING REQUIREMENTS.
- 5) MANHOLE SHALL HAVE A MINIMUM OPENING OF 26 INCHES AND A MINIMUM INSIDE DIAMETER OF FOUR-FOOT (4').
- 6) MANHOLES SHALL HAVE TONGUE AND GROOVE JOINTS BETWEEN SECTIONS THAT ARE WORTHERED OR SEALED WITH BUTYL RUBBER SEALANTS.
- 7) PIPE INLETS AND OUTLETS SHALL BE SEALED WITH WORTAR OR RUBBER SEALANTS OR BOOT TYPE CONNECTIONS.
- 8) MANHOLES SHALL BE PLACED ON A LAYER OF COMPACTED, LEVEL BEDDING MATERIAL, NOT LESS THAN SIX-INCHES IN HEIGHT.
- 9) EXCAVATION AROUND THE MANHOLE STRUCTURES SHALL BE BACK FILLED AND COMPLETED IN TWELVE-INCH (12") LIFTS WITH SUITABLE MATERIALS.
- 10) ROAD BASE MATERIAL AND PAVEMENT PREPARATION INSTRUCTIONS SHALL BE INSTALLED AROUND STRUCTURES IN ACCORDANCE WITH BASE AND PAVEMENT PREPARATION INSTRUCTIONS 55233/55242.
- 11) FRAME AND COVER SHALL BE ADAPTED TO FINISH GRADE USING LAYERS OF WORTAR AND BRICK.
- 12) FRAME AND COVER SHALL MEET ASTM A888 AROUND FROM CLASS 20, GREY CAST IRON.

## PRECAST CONCRETE DRAIN CATCH BASIN MATERIALS AND INSTALLATION

- 1) ALL MATERIALS ASSOCIATED SHALL BE IN ACCORDANCE WITH THE DESIGN PLANS, THE TOWN OF GRAFTON DEPARTMENT OF PUBLIC WORKS CONSTRUCTION STANDARDS.
- 2) ALL CATCH BASINS SHALL HAVE A MINIMUM OF AT LEAST FOUR FEET (48-INCHES) BELOW THE INVERT OF THE OUTLET PIPE AND SHALL HAVE A HOOD ON OUTLET PIPES.
- 3) CATCH BASIN HOODS SHALL EXTEND AT LEAST ONE-FOOT BELOW THE INVERT OF THE OUTLET PIPE.
- 4) CATCH BASIN HOODS SHALL EXTEND AT LEAST ONE-FOOT BELOW THE INVERT OF THE OUTLET PIPE.
- 5) CATCH BASIN HOODS SHALL EXTEND AT LEAST ONE-FOOT BELOW THE INVERT OF THE OUTLET PIPE.
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- 10) CATCH BASIN HOODS SHALL EXTEND AT LEAST ONE-FOOT BELOW THE INVERT OF THE OUTLET PIPE.
- 11) CATCH BASIN HOODS SHALL EXTEND AT LEAST ONE-FOOT BELOW THE INVERT OF THE OUTLET PIPE.
- 12) CATCH BASIN HOODS SHALL EXTEND AT LEAST ONE-FOOT BELOW THE INVERT OF THE OUTLET PIPE.
- 13) CATCH BASIN HOODS SHALL EXTEND AT LEAST ONE-FOOT BELOW THE INVERT OF THE OUTLET PIPE.
- 14) CATCH BASIN HOODS SHALL EXTEND AT LEAST ONE-FOOT BELOW THE INVERT OF THE OUTLET PIPE.

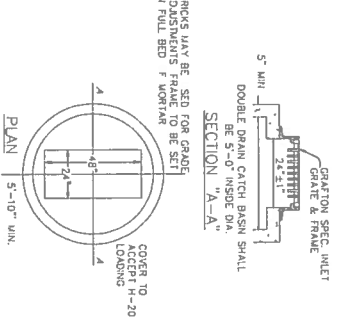
## TYPICAL DRAIN LINE TRENCH

NOT TO SCALE



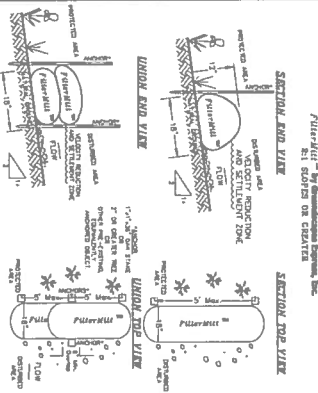
## DOUBLE GRATE CATCH BASIN TOP

NOT TO SCALE



## EROSION CONTROL BARRIER

NOT TO SCALE



## USE 18-INCH DIAMETER FILTER NET.

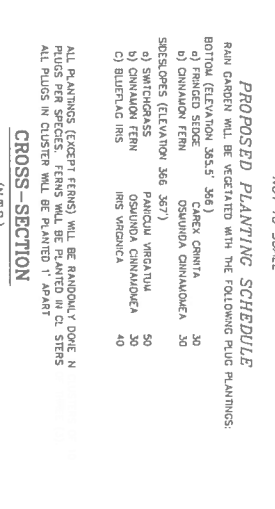


# H.D.P.E. DRAIN PIPE MATERIALS AND INSTALLATION

- 1) ALL PIPE SHALL CONFORM TO MASSDOT SECTION 105.010
- 2) PIPE SHALL BE SMOOTH INTERIOR WALL AND CORRUGATED EXTERIOR WALL AND SHALL BE BELL AND GASKET JOINTS.
- 3) PIPE SHALL COMPLY WITH REQUIREMENTS AND WARNINGS FOUND IN ASHITO RESOLUTIONS W252 AND W284.
- 4) ALL PIPE SHALL SUPPORT AN HS 20 LIVE LOAD WITH A MAXIMUM DEFLECTION OF 5% OF THE SPAN.
- 5) ALL PIPE AND FITTINGS SHALL BE MADE FROM VIRGIN POLYETHYLENE COMPOUNDS WHICH CONFORM TO CURRENT ASHITO CLASSIFICATIONS AND ALSO AS DEFINED IN ASTM D2530.
- 6) PIPES SHALL BE CORRUATED LAY TO LINES AND GRADES AS SHOWN ON DESIGN PLANS.
- 7) PIPES SHALL BE PLACED TO A DEPTH OF 40 INCHES OR LESS THAN 54-INCHES BELOW THE INVERT OF THE PIPE.
- 8) TRENCHES FOR DRAIN LINES SHALL PROVIDE MINIMUM OF TWELVE-INCHES (12") OF HORIZONTAL CLEARANCE FROM SIZES OF PIPE TO EDGE OF TRENCH.
- 9) MANHOLES SHALL BE PLACED TO A DEPTH OF 40 INCHES ABOVE THE TOP OF PIPE.
- 10) WATER TIGHT JOINTS SHALL BE USED ON ALL PIPES IN ACCORDANCE WITH ASTM D2312 PIPE JOINTS SHALL BE BELL AND SPOOD WITH ELASTOMERIC RUBBER GASKETS MEETING OR EXCEEDING ASTM 1427 SPECIFICATIONS.
- 11) BEDDING MATERIAL OR 3/4" CRUSHED STONE SHALL BE CAREFULLY BACKFILLED AND COMPACTED AROUND PIPE TO A DEPTH OF TWELVE-INCHES ABOVE THE TOP OF PIPE.
- 12) MATERIAL FOR BACKFILLING THE REMAINDER OF THE TRENCH, PAVEMENT AND PAVEMENT BASE MATERIAL EXCLUDED, SHALL BE BACKFILLED AND COMPLETED IN TWELVE-INCH LIFTS WITH SIX INCHES OF ORGANICS AND DEMERS OR OTHER THAN FODDER-ROCKES IN DIAMETER. MATERIAL SHOULD BE FREE OF ORGANICS AND DEMERS.
- 13) TRENCH SHALL BE FINISHED WITH SIX INCHES (6") OF LOAM AND SEED IN NON PAVED AREAS AND PREPARED IN ACCORDANCE WITH PAVEMENT STRUCTURE IN PAVED AREAS.

## RAIN GARDEN CROSS SECTION

NOT TO SCALE

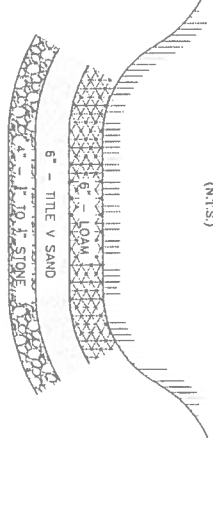


## PROPOSED PLANTING SCHEDULE

RAIN GARDEN WILL BE VEGETATED WITH THE FOLLOWING PLANT PLANNINGS:	
BOTTOM (ELEVATION 365.5' 36.6')	30
1) CATCH BASIN	OSORNIA CHIMAPHILA
2) CATCH BASIN	OSORNIA CHIMAPHILA
3) CATCH BASIN	OSORNIA CHIMAPHILA
4) CATCH BASIN	OSORNIA CHIMAPHILA
5) CATCH BASIN	OSORNIA CHIMAPHILA
6) CATCH BASIN	OSORNIA CHIMAPHILA
7) CATCH BASIN	OSORNIA CHIMAPHILA
8) CATCH BASIN	OSORNIA CHIMAPHILA
9) CATCH BASIN	OSORNIA CHIMAPHILA
10) CATCH BASIN	OSORNIA CHIMAPHILA
11) CATCH BASIN	OSORNIA CHIMAPHILA
12) CATCH BASIN	OSORNIA CHIMAPHILA
13) CATCH BASIN	OSORNIA CHIMAPHILA
14) CATCH BASIN	OSORNIA CHIMAPHILA
15) CATCH BASIN	OSORNIA CHIMAPHILA

## CROSS-SECTION

(N.T.S.)



## REVISIONS

NO	DATE	DESCRIPTION	BY
1	12/04/16	ADDRESS CON. COMM AND GRAVES ENG. COMMENTS	BTN
2	12/14/16	ADDRESS CONSERVA. ON COMMISSION COMMENTS	BTN

FOR METROWEST ENGINEERING, INC.  
ROBERT A. GRIMM, P.E. # 31867 (CIVIL) DATE

## DETAILS PLAN

#104 CREEPER HILL ROAD  
IN  
GRAFTON, MASS

PREPARED FOR  
RUSCO BROTHERS INC.  
P.O. BOX 2105  
FRAMINGHAM, MA 01703

PROPERTY OF:  
104 CREEPER HILL ROAD, LLC  
104 CREEPER HILL ROAD  
GRAFTON, MA 01919

ENGINEERS & SURVEYORS:  
**MWE** METROWEST ENGINEERING, INC.  
78 FRANKLIN STREET  
GRAFTON, MA 01702  
TEL: (508) 628-0063  
FAX: (508) 975-6440

SHEET C701  
CALCD BY: BTN  
FIELD BK:  
PROJECT: GRP-CRG  
DWG FILE: SP101116-R2.dwg  
DATE: NOVEMBER 1, 2016  
DRAFTER: BTN